

CLAIMS

1. A carbon fiber woven fabric characterized by being obtained by firing a cellulose-based woven fabric, and by having a thickness in the range of 0.05-0.4 mm, a
5 volume resistivity of not less than $0.2 \Omega \cdot \text{cm}$ in the layer direction, and a gas permeability of not less than $1500 \text{ cc/cm}^2/\text{hr/mmHg}$.

2. The carbon fiber woven fabric as claimed in claim 1, wherein the compressive strength is not less
10 than 70 kgf/cm^2 .

3. The carbon fiber woven fabric as claimed in claim 1, wherein the electrical resistance in the direction of thickness of the woven fabric is no greater than $50 \text{ m}\Omega \cdot \text{cm}^2$ as measured between two copper plates with
15 a load of 4 kgf/cm^2 .

4. The carbon fiber woven fabric as claimed in claim 1, wherein the orientation of the carbon fiber woven fabric as defined in the present specification includes an orientation component of $4/9$ or greater.

20 5. The carbon fiber woven fabric as claimed in claim 1, wherein the orientation of the carbon fiber woven fabric as defined in the present specification is an average of $1/3$ or greater.

6. The carbon fiber woven fabric as claimed in
25 claim 1 which is a plain weave.

7. The carbon fiber woven fabric as claimed in claim 1 which has a water repellent property.

8. The gas diffusion porous carbon sheet for a solid polymer fuel cell which comprises a carbon fiber
30 woven fabric as claimed in claim 1.

9. A process for manufacture of a carbon fiber woven fabric, characterized by firing a cellulose-based woven fabric in a non-oxidizing atmosphere.

35 10. The process for manufacture of a carbon fiber woven fabric as claimed in claim 9, wherein said cellulose-based woven fabric is soaked with a phosphoric